

Notice of Allowability

Application No.

09/788,115

Examiner

Necholus Ogden

Applicant(s)

SMITH ET AL.

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6-17-04.
2. ☒ The allowed claim(s) is/are 21,22 and 25-51.
3. ☒ The drawings filed on 16 February 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 9-20-04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


Necholus Ogden
Primary Examiner
Art Unit 1751

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Jason Huang on September 20, 2004.

The application has been amended as follows:

Please cancel claims 23 and 24.

Please amend the claims as follow:

21. (Currently Amended) A method of heating a fluid using a line heater, comprising:

heating a solution comprising potassium formate in a solution heating zone in the line heater;

circulating the solution to a fluid heating zone in the line heater to heat the fluid;
and

recirculating the solution to the solution heating zone.

22. (Previously Presented) The method of claim 21, wherein the fluid comprises natural gas.

23. Cancelled.

24. Cancelled.

25. (Previously Presented) The method of claim 21, wherein the potassium formate is made in situ by the reaction of potassium hydroxide and formic acid.

26. (Previously Presented) The method of claim 21, wherein the potassium formate is present in the solution in a concentration from about 1% to about 75% by weight.

27. (Previously Presented) The method of claim 21, wherein the potassium formate is present in the solution in a concentration from about 20% to about 50% by weight.

28. (Previously Presented) The method of claim 27, wherein the potassium formate solution includes at least 0.01% by weight sodium formate.

29. (Previously Presented) The method of claim 27, wherein the potassium formate solution includes about 0.01% to 10% by weight of potassium acetate.

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30. (Previously Presented) The method of claim 29, wherein the solution further comprises 0.01% to 50% by weight of a glycol having up to 6 carbon atoms.

31. (Previously Presented) The method of claim 29, wherein the solution further comprises an effective amount of alkali metal halide to improve freeze resistance of the solution.

32. (Previously Presented) The method of claim 21, wherein the solution comprises about 5% to about 70% potassium formate and 0.01% to 5% corrosion inhibitor.

33. (Previously Presented) The method of claim 21, wherein the solution further comprises 0.01% to 40% by weight of at least one compound selected from the group consisting of ammonium formate, an alkali metal formate other than potassium formate, an alkali metal acetate, and ammonium acetate.

34. (Previously Presented) The method of claim 33, wherein the solution further comprises 0.01% to 40% by weight of at least one compound selected from the group consisting of a compatible corrosion inhibitor, sludge inhibitor, scale inhibitor, freeze point depressant, and pH regulator.

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35. (Previously Presented) The method of claim 33, wherein the solution further comprises 0.01% to 40% by weight of at least one compound selected from the group consisting of nonyl phenol ethoxylates, alkali metal carbonates, nitrates, phosphates, alkyl amines, carboxylic acids, polycarboxylic acids, alkyl ureas, quaternary amine compounds, glycols, and polyglycols having up to 6 carbon atoms.
36. (Previously Presented) The method of claim 21, wherein the solution further comprises ammonium formate.
37. (Previously Presented) The method of claim 21, wherein the solution further comprises an alkali metal formate other than potassium formate.
38. (Previously Presented) The method of claim 21, wherein the solution further comprises ammonium acetate.
39. (Previously Presented) The method of claim 21, wherein the solution further comprises an alkali metal acetate other than potassium acetate.
40. (Previously Presented) The method of claim 21, wherein the solution further comprises 0.01% to 50% by weight of a glycol having up to 6 carbon atoms.

41. (Previously Presented) The method of claim 21, wherein the solution further comprises an effective amount of alkali metal halide to improve freeze resistance of the solution.

42. (Currently Amended) A method of heating a fluid using a line heater, comprising:

providing a solution comprising potassium formate;

heating the solution in a solution heating zone in the line heater;

circulating the solution to a fluid heating zone in the line heater;

transferring heat to the fluid; and

recirculating the solution to the solution heating zone.

43. (Previously Presented) The method of claim 42, wherein the potassium formate is present in the solution in a concentration from about 20% to about 50% by weight.

44. (Previously Presented) The method of claim 43, wherein the potassium formate solution includes at least 0.01% by weight sodium formate.

45. (Previously Presented) The method of claim 43, wherein the potassium formate solution includes about 0.01% to 10% by weight of potassium acetate.

46. (Previously Presented) The method of claim 45, wherein the solution further comprises 0.01% to 50% by weight of a glycol having up to 6 carbon atoms.
47. (Previously Presented) The method of claim 45, wherein the solution further comprises an effective amount of alkali metal halide to improve freeze resistance of the solution.
48. (Previously Presented) The method of claim 42, wherein the solution further comprises ammonium formate.
49. (Previously Presented) The method of claim 42, wherein the solution further comprises an alkali metal formate other than potassium formate.
50. (Previously Presented) The method of claim 42, wherein the solution further comprises ammonium acetate.
51. (Currently Amended) A method of heating a fluid using a line heater, comprising:
heating a solution comprising alkali metal formate in a solution heating zone in the line heater;
circulating the solution to a fluid heating zone in the line heater to heat the fluid;
and
recirculating the solution to the solution heating zone.

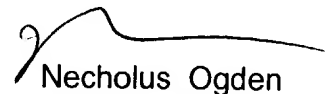
2. The following is an examiner's statement of reasons for allowance: The prior art of record does not teach applicant's method of heating a fluid in a line heater with an alkali metal formate as claimed. Accordingly, the claims are allowable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Necholus Ogden whose telephone number is 571-272-1322. The examiner can normally be reached on M-T and Th-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Necholus Ogden
Primary Examiner
Art Unit 1751

No
9-20-04